



U.S. Department of Housing and Urban Development

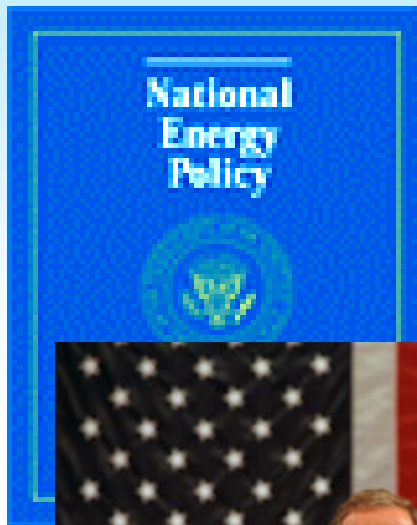
Planning for Energy Efficiency In Your Programs

***FY 2006 SuperNOFA Satellite
Broadcast***

April 20, 2006

Background and General Requirements

National Energy Policy



White House by Eric Draper

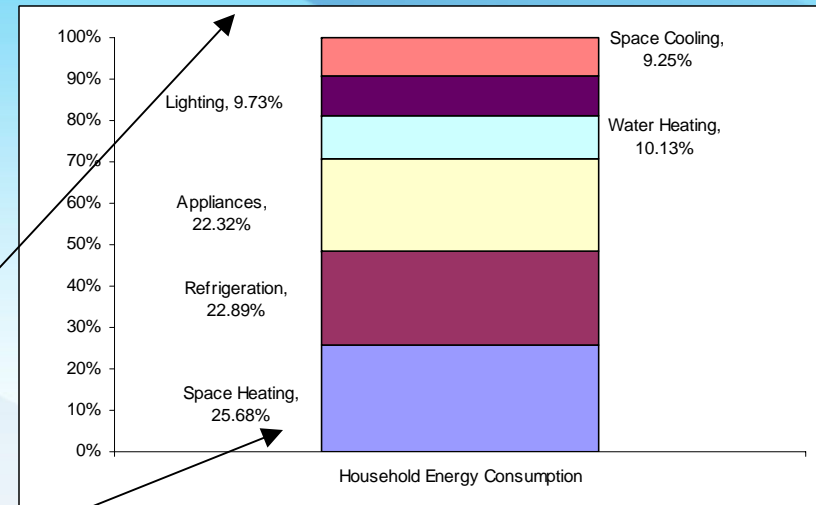
"Conservation and energy efficiency are crucial components of a national energy plan. *Greater energy efficiency helps the United States reduce the likelihood of energy shortages, emissions and the volatility of energy prices.*"

May 2001

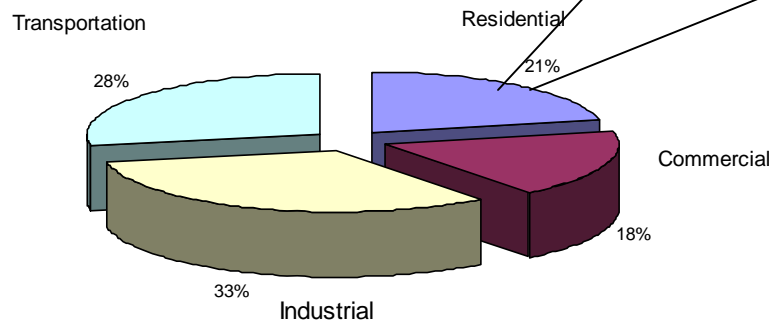
Energy Use in Residential Sector

In 2004, residential sector

- **consumed 21% of U.S. energy**
- **contributed 17% of U.S. greenhouse gas emission**



**Total U.S. Energy Consumption
100 Quads in 2004**



EIA/AEO 2004

**Household energy
consumption is spread
across 6 major uses**

Homes and Apartments Use 20% of Total U.S. Energy

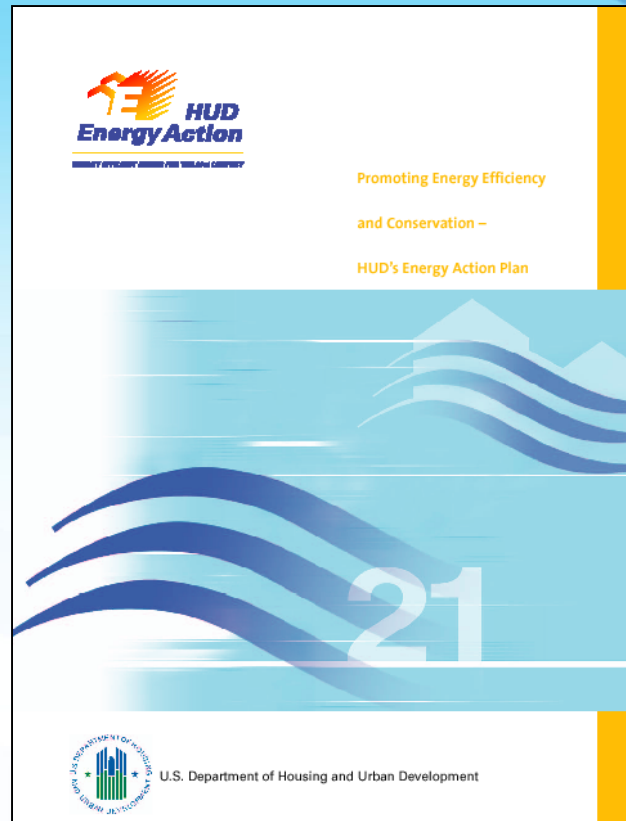
- ◆ Americans spend \$161 billion in homes
- ◆ Residential energy use expected to grow by 20% by 2020
- ◆ Average family spends \$1,338/year on energy
- ◆ Electricity accounts for 61% of energy use
- ◆ Significant reductions 1978-87, but little since: average home uses 101 million Btus
- ◆ Homes getting bigger – 1/3 BIGGER than in 1970
- ◆ More appliances!

HUD Spends An Estimated \$4 Billion on Utilities

- ◆ More than 10% of entire budget
- ◆ Estimated \$1.1 billion directly through public housing operating subsidies
- ◆ Remainder through utility allowances (Housing Choice Vouchers) or Section 8 multifamily contracts
- ◆ Also impacts new construction through HOME, CDBG, HOPE VI, and elderly housing
- ◆ Approximately 5 million units nation-wide



U.S. Department of Housing and Urban Development



www.hud.gov/energy

Incentives for Energy Efficiency in SuperNOFA

- ◆ Assisted Living Conversion Program
- ◆ Section 202 and 811
- ◆ Youthbuild, SHOP and BEDI
- ◆ Indian Community Development Block Grant
- ◆ Rural Housing and Economic Development
- ◆ Lead Based Paint and Healthy Homes
- ◆ HOPWA
- ◆ Housing Counseling
- ◆ Neighborhood Networks and ROSS
- ◆ University Partnerships

Energy Efficiency Policy Priority

- ◆ **Promote energy efficiency in HUD's affordable housing programs, including public housing, HUD-insured housing, and housing financed through HUD formula and competitive programs**
- ◆ **Applicants building, rehabilitating, or maintaining housing or community facilities are encouraged to promote energy efficiency in design and operations**

Energy Efficiency Policy Priority

- ❖ Applicants encouraged to purchase and use products that display the Energy Star label
- ❖ Applicants providing housing assistance or counseling services are encouraged to promote Energy Star products, practices, and housing built to Energy Star standards, to homebuyers and renters

General Section Activities

- ◆ **Develop Energy Star promotional and information materials**
- ◆ **Provide outreach to low- and moderate-income renters and buyers on the benefits and savings of Energy Star products and appliances**
- ◆ **Utilize Energy Star-designated products in the construction or rehabilitation of housing units, and replacing worn products or facilities, such as light bulbs, water heaters, furnaces, etc., with Energy Star products to reduce operating costs**
- ◆ **Communities and developers are encouraged to promote the designation of community buildings and homes as Energy Star compliant**

Energy Star Products and Appliances

Presenter:
Richard Karney
Department of Energy

Energy Star Qualified New Homes

Presenter:

David Lee

**U.S. Environmental Protection
Agency**

Individual Program Requirements

Energy Efficiency Scoring

| Housing Construction and Rehabilitation Programs | |
|--|----------|
| Assisted Living Conversion | 2 points |
| Section 202 for the Elderly | 1 point |
| Section 811 for Disabled Persons | 1 Point |
| Youthbuild | 1 Point |
| Self-Help Homeownership Opportunities Program (SHOP) | 1 Point |

Assisted Living Conversion Program

- ◆ 2 rating points for Energy Star
- ◆ Evaluation Standard
 - Include energy efficiency in the design and operation of the proposed housing through the use of Energy Star appliance and products

Section 202/811 Housing

- ◆ 1 rating point for Energy Star
- ◆ Design and Cost Standards
 - Promote energy efficiency in the design and operation of the proposed housing
- ◆ Exhibits
 - Include plans describing energy efficient features in the operation of the project, including for use of Energy Star labeled products and appliances
 - Include plans for using innovative construction or rehabilitation methods or technologies to promote efficient construction

Youthbuild and SHOP

- ◆ **Youthbuild – 1 rating point for Energy Star**
 - **Describe how Energy Star priority is enhanced by proposed activities**

- ◆ **SHOP – 1 rating point for Energy Star**
 - **Describe how planned activities further Energy Star policy priority**

Energy Efficiency Scoring

| Community and Economic Development Programs | |
|--|---------|
| Brownfields Economic Development (BEDI) | 1 point |
| Indian Community Development Block Grant (ICDBG) | 1 point |
| Rural Housing Economic Development (RHEDP) | 1 Point |

Brownfields Economic Development Initiative (BEDI)

- ◆ 1 point for Energy Star
 - Describe how project will utilize energy-efficient solutions in the design or operation of project, including the purchase and use of Energy Star-labeled products and/or Combined Heat and Power (CHP, or cogeneration) in buildings

Indian Community Development Block Grant Program

- ◆ **1 point for Energy Star OR Improving Our Nation's Communities**
 - Describe how project meets one of two policy priorities: "Energy Star" OR "Improving Our Nation's Communities"
- ◆ **Housing Standard**
 - Provide for an energy efficient building and systems that incorporate energy conservation measures

Indian Community Development Block Grant Program

◆ Eligible Activities

- Assistance to Community Based Development Organizations to undertake energy conservation activities
- Energy Efficiency activities associated with Housing Rehabilitation or Public Facilities and Improvements

Rural Housing Economic Development

◆ 1 point for Energy Star

◆ Eligible Activities

- Cost of using new or innovative construction, energy efficiency, or other techniques that will result in the design or construction of innovative housing
- *"Innovative Housing Activities"* means projects, techniques, methods...construction materials, energy efficiency improvements, or financing institutions or sources new to the eligible area or to its population

Rural Housing Economic Development

❖ Outcome Measures

- Outcomes include annual estimated savings for low income families as a result of energy efficiency improvements

Energy Efficiency Scoring

| Specialized Housing and Homeownership Programs | |
|---|-----------|
| Continuum of Care | Checklist |
| HOPWA (Housing Opportunities for Persons With Aids) | 1 point |
| Lead-Based Paint Healthy Homes Technical Studies Healthy Homes Demonstrations | 1 Point |
| Housing Counseling | 1 Point |

Continuum of Care

◆ Participation in Energy Star

- All McKinney-Vento projects are encouraged to promote energy efficiency, and are specifically encouraged to purchase and use Energy Star-labeled products

◆ Complete Exhibit Questionnaire

- Have you notified CoC members of the Energy Star Initiative _ Yes _ No
- Percentage of CoC projects on CoC Priority Chart using Energy Star appliances

Continuum of Care

AA: CoC Participation in Energy Star Chart

HUD promotes energy-efficient housing. All McKinney-Vento funded projects are encouraged to promote energy efficiency, and are specifically encouraged to purchase and use Energy Star labeled products. For information on the Energy Star initiative go to: <http://www.energystar.gov>.

Have you notified CoC members of the Energy Star initiative? ☐ Yes ☐ No

Percentage of CoC projects on CoC Priority Chart using Energy Star appliances:
%

CoC-AA

HOPWA

◆ 1 rating point for Energy Star

- Applicants must make a commitment to promote energy efficiency by adopting the Energy Star standard in any new construction, or rehabilitation activity, or maintaining housing or community facilities undertaken with HOPWA or other funds
- Applicants encouraged to develop energy star promotional and information materials and provide outreach to low and moderate-income renters and buyers on the benefits and savings when using Energy Star products.

Lead Based Paint Hazard Control

◆ 1 rating point for Energy Star

- Applicants encouraged to integrate the grant program with housing rehabilitation, maintenance, weatherization, and other energy conservation activities
- Explain how the proposed program will integrate and stage proposed lead hazard control activities with rehabilitation, weatherization, or healthy homes demonstration
- Applicants expected to implement Energy Star building techniques and utilize Energy Star appliances whenever activities in the grant afford the opportunity

Healthy Home Technical and Demonstration Programs

- ◆ 1 rating point for Energy Star
- ◆ Eligible Activities
 - Rehabilitation activities to effectively control housing-based health hazards, without which the intervention could not be completed and maintained
 - Comment: Home Performance with Energy Star initiative promotes healthy homes.

Housing Counseling

- ◆ **Policy Priority - 1 rating point for Energy Star**
 - Describe how you promote or plan to promote Energy Star materials and practices and buildings built to Energy Star standards to homebuyers, renters and other applicable counseling clients
 - Describe any outreach activities previously conducted and/or planned to promote Energy Star products.

Energy Efficiency Scoring

Public Housing and Resident Programs

Public Housing Neighborhood Networks

1 Point

Resident Opportunities Self Sufficiency

No pts

University Partnerships

1 Point

Neighborhood Networks

- ◆ 1 rating point for Energy Star
 - Applicants encouraged to promote activities listed in General Section
 - Promote energy efficiency in project design & operations
 - Purchase and use Energy Star labeled products
 - Promote buildings built to Energy Star standards to homebuyers and renters
 - Develop Energy Star promotional and information materials
 - Conduct outreach on the benefits and savings when using Energy Star products and appliances
 - Promote the designation of community buildings and homes as Energy Star compliant

ROSS Program

◆ No policy priority points specified

● Applicants encouraged to promote activities listed in General Section

- Promote energy efficiency in project design & operations
- Purchase and use Energy Star labeled products
- Promote buildings constructed to Energy Star standards to homebuyers and renters
- Develop Energy Star promotional and information materials
- Conduct outreach on the benefits and savings when using Energy Star products and appliances
- Promote the designation of community buildings and homes as Energy Star compliant

University Partnership Programs

◆ 1 rating point for Energy Star

- Historically Black Colleges and Universities (HBCU)
- Hispanic Serving Institutions (HSIAC)
- Alaska Native/Native Hawaiian Institutions

◆ Eligible Activities

- Assistance to community-based development organizations (CBDO) to carry out energy conservation projects
- Public service activities contributing to energy conservation

Addressing Energy Star in Your Application

For New Construction or Substantial Rehabilitation

- ❖ **Adopt Energy Star Qualified New Homes**
- ❖ **Purchase Energy Star products and appliances, including lighting, refrigerators, clothes washers, furnaces, windows, doors and other Energy-Star rated appliances**
- ❖ **Applies also to single family construction and low-rise (3 stories or less) multifamily**

For Mod Rehab or Home Repairs

- ❖ Purchase Energy Star-labeled products or appliances
- ❖ Include Energy Star lighting, refrigerators, clothes washers, windows, doors and windows, and other relevant Energy Star-labeled products and appliances

For Building Maintenance and Operations

- ❖ Purchase Energy Star products and appliances
- ❖ Include Energy Star lighting, refrigerators, clothes washers, windows, doors and windows, and other relevant Energy Star–labeled products and appliances

For Housing Counseling

- ◆ Provide information to home buyers about utility costs, energy efficiency and Energy Star
- ◆ Educate home buyers about costs and benefits of buying Energy Star and value of sound energy management practices

For Multifamily Buildings

- ◆ Consider adopting ASHRAE 90.1 Appendix G (2004 Revision) plus 20 percent as standard for new construction
- ◆ Apply to medium or high rise (more than 3 stories)
- ◆ Purchase Energy Star products and appliances

Reducing Costs Through Bulk Purchasing

Public Housing Energy Conservation Clearinghouse: ENERGY STAR® Bulk Purchasing for HUD - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Print

Address http://www.hud.gov/offices/pih/programs/ph/phecc/bulkpurchase.cfm Go Links

Homes & Communities
U.S. Department of Housing and Urban Development

Public and Indian Housing

- Public housing
- PHECC
 - PIH Utility Policies
 - Incentives & Funding
 - Utility Allowances
 - Success Stories
 - Cost Reduction Toolbox
 - Energy Star, etc.
 - Training & Conferences
 - Resources & Links
 - Newsletter
 - Contact Us

HUD news

Homes

Communities

Working with HUD

Resources

Tools

- Webcasts
- Mailing lists
- Contact us
- Help

FIRSTGov.gov
The U.S. Government's Official Web Portal

Public and Indian Housing

En español | Text only | Search/index

ENERGY STAR® Bulk Purchasing for HUD

This information has been developed to help public housing authorities, managers of assisted housing, and other HUD grantees to cost-effectively procure energy efficient products. It currently focuses on refrigerators, but may be expanded to address other appliances and lighting products. HUD encourages housing owners, managers, and residents to look for the ENERGY STAR when purchasing products. Get started with the bulk purchasing [5 Step Checklist](#).

About ENERGY STAR

ENERGY STAR is a voluntary labeling program designed to identify and promote energy efficient products and appliances. ENERGY STAR-labeled products save energy and money and protect the environment. Improving energy efficiency in HUD-financed and HUD-assisted housing can generate significant savings for property owners and building residents.

Jointly administered by the US Environmental Protection Agency (EPA) and the US Department of Energy (DOE), ENERGY STAR labels the most efficient new homes and buildings and a wide range of residential and commercial products.

How the Program Works

Use the information provided to contact [participating partners](#) and negotiate a bulk purchasing plan that works for your agency.

[Information by State](#)

[Print version](#)

[Email this to a friend](#)

Jump to...

- [5 Step Checklist](#)
- [Bulk Purchasing Partners](#)

Done

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Best Practices

American YouthWorks' Casa Verde Builders, Austin, TX



- **90 Green-Built Homes**
- **30-50% Less Energy**
- **Quality, Low Maintenance**



Chestnut Linden Court, West Oakland

Permanent Housing for Homeless



- ◆ 106 units, New Construction - Single Room Occupancy
- ◆ Project Costs: \$22 million
- ◆ Funding Sources: LIHTC, San Francisco Redevelopment Authority
- ◆ Energy Saving Measures: Energy Star appliances, equipment, lighting and windows; PV Solar system; ultra low flow plumbing
- ◆ Green Building Measures: Meets Enterprise Green Underwriting criteria
- ◆ Energy Savings: Building achieves an Energy Star Standard; Estimated Per household savings: \$350 per year

Positive Match, San Francisco

Housing for Formerly Homeless Mothers with HIV/AIDS



- ◆ 7 residential units: Acquisition/Rehabilitation
- ◆ Project Cost: \$3,400,110 including \$285,500 for Green Building & Energy Efficiency
- ◆ Sources: HOPWA, SHP, LISC, and Bernal Heights neighborhood center
- ◆ Energy Saving Measures: Energy Star refrigerators; HVAC controls
- ◆ Green Measures: Materials responsive needs of for immune deficient residents, No VOC paint, hydronic heating & cooling;
- ◆ Estimated Energy Savings: \$420 annually (Energy savings derived from Energy Star Refrigerators)

Chestnut Linden Court, West Oakland HOPE VI



- ◆ 151 unit, HOPE VI new construction
- ◆ Project Cost: \$56 million
- ◆ Funding Sources: HOPE VI, LIHYC, City of Oakland, CalHFA, AHP; PGE energy rebates
- ◆ Energy Measures: Energy Star appliances, equipment, lighting, and windows; Two 31.5kWH PV Solar systems; 94% high efficiency 260 gallon water heating
- ◆ Energy Savings: Project achieves Energy Star Standard;
 - PV systems savings: \$9,690/yr
 - Consumption Savings: 102,000kWh/yr

Emeryville Resourceful Building Affordable Single Family

- ◆ 3 unit infill project,
- ◆ Project Cost: \$731,300, including \$243,000 for Green Building and energy improvements
- ◆ Funding Sources: Emeryville Redevelopment Agency, County Reduction and Recycling Board, Waste Management Authority
- ◆ Energy Measures: High efficiency furnace, low-e windows, R-20 spray wall insulation, high efficiency duct work, CFLs, low-flow water, and hot water heating blanket
- ◆ Energy Savings: Project 33% more efficient than Title 24 (CA Building Code)
 - Project annual energy savings: \$546/yr



Outlook Construction, Atlanta GA



**Outlook Construction
Atlanta, GA**

- ◆ Panelized Advanced Framing 2 x 6 Walls @24" OC
- ◆ Low-e Windows
- ◆ Foamed Stud Cavities with Blown in Cellulose (R-23)
- ◆ Inside-The Envelope AHU
- ◆ Foamed and Insulation Buried Ducts
- ◆ Affordable and Starter Homes
- ◆ HERS 89

Claretion Associates, Cook County IL



**Claretian Associates
South Chicago, IL**

◆ Panelized Structural Insulated Panel Construction

- R-24 Walls
- R-40 Roofs

◆ Other:

- 92 AFUE Furnaces
- Mastic Sealed Ducts
- 1.2-kW PV Solar Systems
- Low-e Windows
- EnergyStar Appliances
- Compact Fluorescent Lighting
- Controlled Ventilation



U.S. Department of Housing and Urban Development

For Further Information

- [**www.hud.gov/energy**](http://www.hud.gov/energy)
 - **HUD Energy Action Plan**
- [**www.hud.gov/offices/pih**](http://www.hud.gov/offices/pih)
 - **Public Housing Energy Conservation Clearinghouse**
- [**www.hud.gov/offices/cpd**](http://www.hud.gov/offices/cpd)
 - **CPD's energy web site**

- **www.energysavers.gov**
 - Government-wide portal for energy information
- **www.energystar.gov**
 - EPA's Energy Star web site
- **www.pathnet.org**
 - Partnership for Advancing Technology in Housing